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## A New African *Microgomphus*, and Notes on Some Asiatic Types (Odonata)

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The first African species to be described belonging to the genus *Microgomphus* Selys was named *M. schoutedeni* by Lt. Col. F. C. Fraser in May 1949 (Rev. Zool. Bot. Afr., 42: 114). The insects had been taken in the Belgian Congo at Kapanga, 1 ♂ Nov. 1932, and Bambesa, 1 ♂ and 1 ♀ May 1938. Up to that time the genus had been considered wholly Oriental.

In November, 1948, Mr. J. A. Whellan of the Dept. Agric. Southern Rhodesia, had captured a single female on the Inyamadzi River, Portuguese East Africa and being unable to classify it, sent it to me in the following spring. The specimen reached me just about the time that *M. schoutedeni* was published. I saw at once that this is a different species, but although the specimen is completely undamaged, it is badly discolored and the exact shape and extent of the pattern is impossible to define. For this reason I am unwilling to name this specimen, although only the second female of African *Microgomphus* known; but I have partially described it later on in this paper.

On May 23rd, 1950, Dr. F. J. O'Rourke of the Liverpool School of Tropical Medicine, caught a third female, of still another species, at the Loiasis Research Scheme, Kumba, BRITISH CAMEROONS, beside a slowly flowing stream in partially cleared forest. This specimen reached me late in July, in a tube of spirit. It was rather damaged in the wings, but the color and pattern were perfectly preserved. I have felt justified in naming this West African specimen, as, in the known species of *Micro-*

*gomphus* with described females, these very closely resemble the males.

All three of the African females seem to be very closely related, with similar patterns and dimensions and with short vulvar scales. It is deeply to be regretted that only the male of one species is, so far, known.

***Microgomphus camerunensis* sp. nov.**

Female Holotype: (mature). Abdomen + appendages, 27 mm. Forewing, 26 mm. Hindwing, 25 mm. Pterostigma fw. 2.75 mm., hw. 3 mm. Color black, green and citron-yellow.

*Head*: Labium, lateral lobes, mandible-bases and genae citron-yellow. Two large spots on labrum, anteclypeus and crest of frons citron-yellow, the rest glossy-black as in fig. 1, A. The base of frons, epicranium, antennae and the back of head and eyes, glossy-black. The vertex and occiput reddish-brown, the latter shallowly concave along the raised ridge, which is bordered with an uneven number of very short and irregularly formed black spines, interspersed with a few, sparse, fine, pale hairs. The compound eyes either green or yellow and meeting to within 1 mm. Neck yellow dorsally.

*Prothorax*: Deeply ridged transversely, raised in the center, with equally prominent anterior and posterior lobes. Black or dark reddish-brown, with citron-yellow laterally on the anterior lobe.

*Thorax*: Glossy-black dorsally and citron-yellow beneath. The thoracic pattern as in fig. 1, B, the pattern from the dorsal carina to the 2nd lateral suture being green. Also on the dorsum there is a broad green transverse band between each pair of wings.

*Legs*: Short, the hind femora extending to the beginning of the 2nd abdominal segment and measuring 7 mm. Numerous black spines, not very closely set and gradually lengthening in the center. The inner surface of all the femora is citron-yellow. Tibiae and tarsi are black, coxae citron-yellow.

*Wings*: All four very slightly tinged with saffron at the bases. Venation black. Pterostigma dark yellowish-brown between

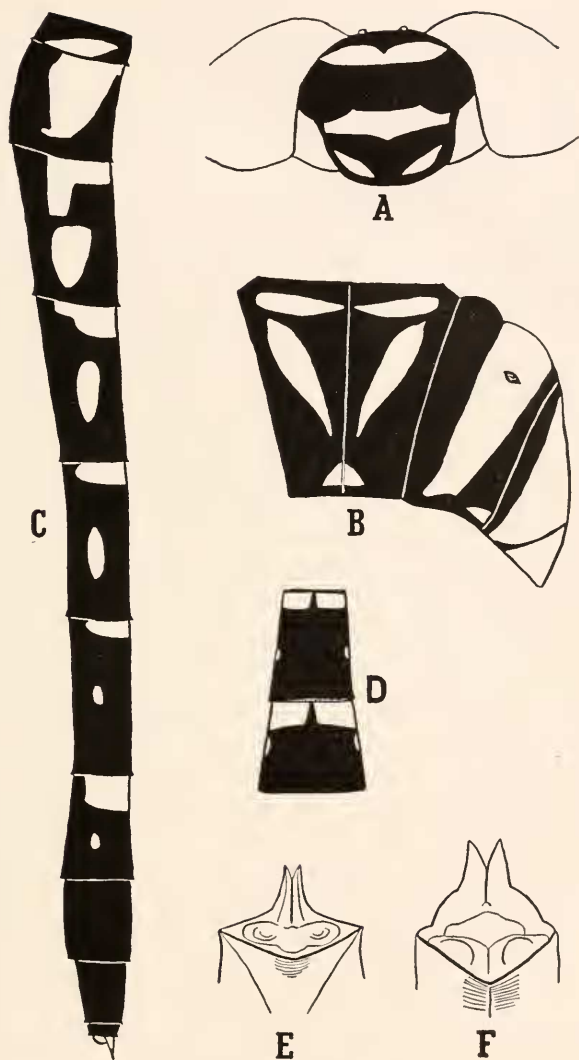


FIG. 1. *Microgomphus camerunensis* sp. nov.

A. Pattern of head from in front. B. Thorax pattern. C. Pattern of abdomen from left side. D. Dorsal pattern of 6th and 7th abdominal segments. E. Vulvar scale. F. The same for the Portuguese E. African ♀.

thick black veins, 0.5 mm. deep and covering 4-5 cells. Antenodals  $\frac{14}{10} | \frac{15}{10}$ , postnodals  $\frac{10}{10} | \frac{10}{10}$ , bridge X-veins  $\frac{7}{5} | \frac{7}{6}$ , cubital anal X-veins (Cu<sub>1</sub>)  $\frac{2}{1} | \frac{2}{1}$ . 1st and 5th antenodals are the primaries. Arculus at the 2nd antenodal or very slightly distal. Discoidal field in forewings of 6 rows of 2 cells, in hindwings 1 row of 3 cells, then 3 rows of 2 cells. One row of cells along hind margin of forewing from base to 1A, with the exception of 3-4 double cells, 3 cells distant from the apical end.

*Abdomen:* Glossy-black marked with citron-yellow as in fig. 1, C and D. The dorsal pattern is as follows: Segment 1 is yellow to the first transverse carina and also has a minute spot in center of the black area; Segment 2 has a narrow anterior yellow ring and a yellow spot in the center of the black area, the tiny oreillets are also yellow; Segments 3 and 4 resemble Segment 6 in fig. 1, D, but with the anterior rings complete except for the black dorsal carina, also more of the larger yellow lateral spots can be seen from above; Segment 5 exactly like Segment 6; Segment 7 as in fig. 1, D; Segments 8, 9, 10 black. Abdomen beneath black. Appendages yellow with black tips, 0.5 mm. in length. Length of abdominal segments: 1st, 1 mm.; 2nd, 2.5 mm.; 3rd, 0.75 mm.; 4th, 5th and 6th, 4 mm.; 7th, 3 mm.; 8th, 2 mm.; 9th, 1.75 mm.; 10th, 0.5 mm. Vulvar scale yellow, about half as long as 8th segment and shaped as in fig. 1, E.

*M. camerunensis* is very similar to *schoutedeni* in color-pattern, but can best be separated by the different shape of the occiput together with the short irregular spines, instead of a fringe of black hairs; also by the shorter hind femora. It has a somewhat similar thoracic pattern to *M. wijaya* Lieftinck (1940) from Ceylon, while the vulvar scale resembles that of *M. thelyphonus* Lieftinck (1929) from Java, but it has very much shorter and broader valves than in *M. torquatus* (Selys, 1854) type female from India.

I would here like to take the opportunity to correct two statements made by Lt. Col. F. C. Fraser in 1934 in volume 2 of *The Fauna of British India*, as to the location of 2 type specimens.

The type of *M. torquatus* (Selys) is not in the Selys collection (Brussels), as stated on page 355, but in the British Museum (Natural History). The type of *Cyclogomphus* [*Microgomphus*?] *minusculus* Selys is not lost, as stated on page 361. It was in the MacLachlan collection and is now in the British Museum (Natural History). This female is neither a *Cyclogomphus*, as now defined, nor a *Microgomphus*. I think it is most likely a *Burmagomphus* Williamson.

The type of *Microgomphus camerunensis* Longfield and the *Microgomphus* female from Portuguese East Africa are also in the British Museum (Natural History) having been presented by the respective collectors.

### **Microgomphus** sp.

A mature female from the Inyamadzi River, Portuguese East Africa, 12.11.1948. It differs from *camerunensis* in being a yellower insect. The entire frons and clypeus, also nearly all the labrum are citron-yellow, with only a very narrow blackish basal band across the labrum and a faint indication of a fine black surrounding edge to the lip. The tips of the distalia are yellow in the otherwise black antennae, and the back of the head and eyes is either orange or reddish-brown. The shape, color and armature of the occiput is almost identical. The compound eyes meet to within 1.25 mm. and are orange? in color. The prothorax appears to be unmarked. The dorsal pattern of the thorax is similar to *camerunensis*, but laterally it would appear that the yellow vertical band on the metepisternum is joined below to the yellow metepimerum, leaving a large oval black patch astride the 2nd lateral suture. Legs are more yellow than black; the hind femora measure 7 mm. It would appear that on the abdomen there is more yellow laterally, possibly continuous along the lower edge of the tergites. Beneath, the black of the sternites is somewhat pruinose. Segment 8 would seem to have some yellow laterally, but 9 and 10 are black. The light yellowish-brown anal appendages are very slightly blunter than in *camerunensis*, a bit longer (0.75 mm.) and without black tips. The dimensions of the segments differ slightly: 1st, 1 mm.;

2nd, 2.75 mm.; 3rd, 4th and 5th, 4 mm.; 6th, 3.75 mm.; 7th, 3 mm.; 8th, 2 mm.; 9th, 1.75 mm.; 10th, 0.5 mm.: total length—appendages 27.5 mm. The vulvar scale is yellow and shaped as in fig. 1, F. The wings are slightly tinged all over with greenish-yellow, this may be due to age. Pterostigma reddish-brown, 3 mm. long and 0.5 mm. deep in all wings. The cells beneath are small and variable in number, from 4 to  $5\frac{1}{2}$ . Antenodals  $\frac{15}{10} \mid \frac{15}{9}$ , postnodals  $\frac{10}{10} \mid \frac{9}{9}$ , bridge X-veins  $\frac{6}{5} \mid \frac{6}{5}$ , cubital anal X-veins  $\frac{2}{1} \mid \frac{2}{1}$ . The 1st and 5th antennodals are the primaries in the forewings and the right hindwing, 1st and 4th in left hindwing. The discoidal field of the forewing has 6 rows of 2 cells and the hindwing 1 row of 3 cells, then 3 rows of 2 cells. The hind margin of the forewing from base to 1A is all of single cells.

From *schoutedeni* it is easily separated by the yellow face, the different shape and armature of the occiput, the shorter hind femora and the yellow anal appendages.

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#### Correction of a Reference to *Mantis religiosa* L.

In a note concerning *M. religiosa* in ENTOMOLOGICAL NEWS, 61: 205–207, the writer referred to an article in the 79th Annual Report of the Entomological Society of Ontario, 1948: 41–44, and attributed its authorship to "SMITH, C. W." This citation was incorrect and should have been "JAMES, H. G."—W. W. JUDD, University of Western Ontario, London, Ont.